~~XIII~~

JOINT MESSAGEFORM

SECURITY CLASSIFICATION [redacted]

[redacted]

SPACE BELOW RESERVED FOR [redacted]

1960 AUG 11 23 15

PRECEDENCE	TYPE MSG (Check) BOOK	MULTI	SINGLE	ACCOUNTING SYMBOL	ORIG. OR REFERS TO	CLASSIFICATION OF REFERENCE
ACTION OPERATIONAL IMMEDIATE						
INFO OPERATIONAL IMMEDIATE						

FROM:
CHIEF, AFBMD FIELD OFFICE, VAFB, CALIF

TO: HQ AFBMD, LOS ANGELES 45, CALIF
HQ 6594TH TEST WING (SATELLITE), SUNNYVALE, CALIF
LOCKHEED MISSILES & SPACE DIV, SUNNYVALE, CALIF
LOCKHEED MISSILES & SPACE DIV, VAFB, CALIF (COURIER)
DOUGLAS AIRCRAFT COMPANY, VAFB, CALIF (COURIER)

INFO: 1ST MISSILE DIVISION, VAFB, CALIF (COURIER)
AFBMD TECHNICAL EVALUATION STAFF, P.O. BOX 1567, VAFB, CALIF (COURIER)

SPECIAL INSTRUCTIONS

CLASSIFICATION CHANGED TO [redacted]
By Authority of
8 APR 1966

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DOWNGRADED AT 3 YEAR INTERVALS; DECLASSIFIED AFTER 12 YEARS DOD DIRECTIVE 5200.10

SECRET/WDG-16-4-11-120.

LOSA FOR WDZY; 6594TH TW FOR LT COL MATHISON; LMSD/SUNNYVALE FOR DEPT 61-44 (L. F. MORGAN); LMSD/VAFB FOR DEPT 65-44 AND 61-70; DAC FOR R. PURDY. INFO: 1MD FOR COMMAND POST; AFBMD TECH EVAL STAFF FOR MR. E. PISCHEL. SUBJECT: FOLLOW-ON REPORT TO FLASH REPORT, WDG-16-4-11-119, OF LAUNCHING OF DISCOVERER ~~XIII~~ XIV (NIGHT SHIFT-PRESTO).

1. PRE-LAUNCH PHASE

DATE	TIME
11	
MONTH	YEAR
AUG	1960

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DD FORM 1 MAY 55 173 REPLACES DD FORM 173, 1 OCT 49, WHICH WILL BE USED UNTIL EXHAUSTED

JOINT MESSAGEFORM - CONTINUATION SHEET

SECURITY CLASSIFICATION [redacted]

FROM:

CHIEF, AFBMD FIELD OFFICE, VAFB, CALIF

[redacted]

1.1. DISCOVERER ~~XIII~~ XIV WAS INITIATED AT 0600 PDT ON 10 AUGUST 1960. THE COUNTDOWN Countdown PROCEEDED SMOOTHLY UNTIL T-150 AT 0945 PDT WHEN AN OPERATIONAL HOLD WAS IMPOSED TO PERMIT THE WORK TO CATCH UP WITH THE COUNT. THIS HOLD WAS RELEASED AT 1101 PDT. SOME DIFFICULTY WITH TRAIN SCHEDULES AND FOG WERE ENCOUNTERED. NEITHER AFFECTED THE FINAL LAUNCH RESULTS. A TECHNICAL HOLD WAS CALLED IN PHASE 5 TO CLARIFY THE STATUS OF THE VERLORT RADAR. THE STATUS OF THE VERLORT RADAR WAS DETERMINED IN A MATTER OF SECONDS AND THE COUNT WAS RESUMED. THE KEY WAS TURNED AT 1321 PDT. THE TOTAL TERMINAL COUNTDOWN TIME WAS FOR 16 MINUTES 30 SECONDS. LIFT-OFF WAS AT 1337:54.42 PDT.

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2. EXIT PHASE

2.1. DURING THE FIRST PART OF THE LAUNCH PHASE THE SEQUENCE OF EVENTS OCCURRED AS FOLLOWS:

LIFT-OFF	1337:54.42	1257:07.86
MECO	1340:37.39	1259:52.72
VECO	1340:46.86	1260:02.53
START OF SEPARATION	1340:56.33	1260:09.59
ORBITAL STAGE IGNITION	1342:56.85	1261:45.63
ORBITAL STAGE BURNOUT	1344.55.83	1263:41.41

2.2. ALL ENGINE PARAMETERS FUNCTIONED NORMALLY. THE THRUST OF THE THOR BOOSTER WAS NOMINAL OR ABOVE AND THE THRUST LEVEL WAS [redacted] STABLE AND [redacted] WITHIN THE THOR PERFORMANCE SPECIFICATIONS. THE ENGINE PERFORMANCE OF THE AGENA WAS NOMINAL IN ALL RESPECTS.

Delete

2.3. COMMAND 5 (DELAY IGNITION) WAS SENT AND RECEIVED FOR A

SYMBOL	PAGE NO.	NR OF PAGES	SECURITY CLASSIFICATION	INITIALS
WDG-16-4	2	4	[redacted]	

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FROM

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DURATION OF 24.2 49.25 SECONDS. HOWEVER, THERE WAS AN ADDITIONAL DELAY IN IGNITION DUE TO ACTION OF THE FAIRCHILD "H" TIME FOR 2.6 2.2 SECONDS FOR A TOTAL EFFECTIVE DELAY OF IGNITION OF 26.9 51.45 SECONDS. COMMAND 6 (REDUCTION IN VELOCITY TO BE GAINED) WAS SENT AND RECEIVED FOR A DURATION OF 13.2 12.9 SECONDS. ORBITAL STAGE SHUT-DOWN OCCURRED BY SIGNAL FROM THE INTEGRATOR.

2.4. ORBITAL INJECTION VELOCITY WAS 26100 25,800 FPS (INERTIAL REFERENCE). THE INTEGRATOR INDICATED HORIZONTAL VELOCITY GAIN WAS 13,490 13,500 FPS. INJECTION ALTITUDE ALONG THE LOCAL VERTICAL WAS APPROXIMATELY 120 160 STATUTE MILES BASED ON THE LMSD PT MUGU ~~TOWER~~ RADAR DATA ~~(PUNCHED TAPE)~~. THE FLIGHT PATH DEPARTURE ANGLE WAS APPROXIMATELY 172.0 174.0 DEGREES BASED ON THE PT MUGU RADAR PLOT BOARD CHARTS.

2.5. THE INJECTION ANGLE WAS APPROXIMATELY 0.0 DEGREES BASED ON THE LMSD PT MUGU RADAR CHART.

3. RADAR AND TELEMETRY

3.1. GOOD TRACK WAS ACHIEVED BY THE PT MUGU RADAR FROM ACQUISITION AT T+7 T/20 SECONDS AND LOCK ON AT T+45 T/40 SECONDS UNTIL SIGNAL FADE AND SIGNAL LOSS AT T+501 T/518 SECONDS. THE VAFB RADAR HAD GOOD TRACK UNTIL T/164 SECONDS AT WHICH TIME IT WENT PASSIVE AS PLANNED.

3.2. TELEMETRY RECEPTION AND RECORDING WERE SATISFACTORY AT BOTH VAFB AND PT MUGU, RECEIVING UNTIL T/502 SECONDS. THE DOWN RANGE T/M SHIP HAD A SIGNAL RECEPTION FOR APPROXIMATELY 524 SECONDS STARTING AT T/260. OBSERVATIONS RECORDED ON THE 8TH PASS INDICATED THAT ALL PERTINENT VEHICLE PARAMETERS APPEARED NORMAL. THERE WAS

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SECURITY CLASSIFICATION [redacted]

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FROM

CHIEF, AFBMD FIELD OFFICE, VAFB, CALIF

NO EVIDENCE OF ATTITUDE INSTABILITY. CONTROL GAS SUPPLY PRESSURE WAS ADEQUATE REMAINING AT OVER 2000 PSI.

4. FOLLOW-ON TO PRIMARY OBJECTIVES

4.1. ALL PRIMARY OBJECTIVES OF THE LAUNCH PHASE WERE ACHIEVED.

5. PAD DAMAGE

5.1. PAD DAMAGE WAS LESS THAN FOR ANY DISCOVERER LAUNCH TO DATE. THERE WAS NO ELECTRICAL OR STRUCTURAL DAMAGE TO THE PAD EXCEPT FOR THE FOLLOWING: A SECTION THREE FEET LONG WAS DESTROYED IN EACH OF THE TWO AGENA AIR CONDITIONING DUCTS, THREE CONDUIT DUCTS, THREE FEET LONG AND TEN INCHES IN DIAMETER AND LOCATED AT THE BASE OF THE MAST, WERE DESTROYED BY THOR ENGINE EXHAUST BLAST. THERE WAS NO SIGNIFICANT DAMAGE TO THE UMBILICAL COUPLINGS OR LINES.

5.2. FIVE WORKING DAYS WILL BE REQUIRED TO REPAIR THE DAMAGE.

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